

and 1b attached hereto.

REMARKS

Applicants have enclosed corrected informal drawings of Figures 1a and 1b.

Applicants have also enclosed hand amended pages showing the corrections for the Examiner's convenience. The hand amended pages are captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE". Applicants will file formal drawings of all figures at a later date.

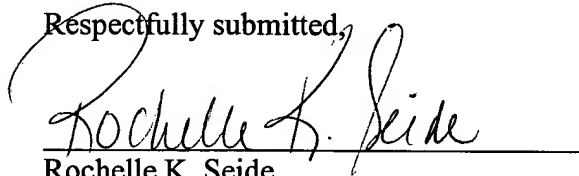
In the Wild Boar sequence in the original version of Figure 1a, two blocks of ten nucleotides were inadvertently swapped. Thus, nucleotide numbers 68-77 and 78-87 appeared in the wrong order. Amendment of Figure 1a to correct this defect is supported by the specification as originally filed at page 68, lines 28-30.

In the original version of Figure 1b, the second amino acid in the Wild Boar sequence was inadvertently identified as "N", i.e. asparagine. The specification as originally filed indicates that Figure 1b shows the "derived amino acid sequence ... of the porcine aMSH-R gene" at page 25, lines 2-3. The original paper sequence listing filed concurrently with the original specification indicated that the codon corresponding to the amino acid at position two is GAC which encodes aspartic acid (D), not asparagine. *See e.g.* Seq ID No. 37, positions 162-164.

These amendments to the figures are fully supported by the application as filed and do not constitute new matter. These amendments bring Figures 1a and 1b into conformity with the Substitute Sequence Listing filed on June 1, 2001.

Applicants do not believe any fee is due with this submission. However, please charge any fee required for this filing overpayment to Deposit Account No. 02-4377. Two copies of this paper are enclosed.

Respectfully submitted,

A handwritten signature in cursive script, reading "Rochelle K. Seide", written over a horizontal line.

Rochelle K. Seide  
PTO Reg. No. 32,300  
Attorney for Applicants

Michelle M. LeCointe  
PTO Reg. No. 46,861  
Agent for Applicant

BAKER BOTTS, L.L.P.  
30 Rockefeller Plaza  
New York, NY 10112  
(212) 408-2631

Enclosures



VERSION WITH MARKINGS TO SHOW CHANGES MADE

|            |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Wildboar   | TGC | GGC | TCC  | AGG | GTG | TCC | AGC | CTC | TGC | TTC | CTG | GGC | GCC | ATC | GCC | GTG | GAC | 431 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | CGC | TAC | GTG  | TCC | ATC | TTC | TAC | GCG | CTG | CGC | TAC | CAC | AGC | ATC | GTG | ACG | CTG | 483 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | CCC | CGC | GCG  | GGG | CGG | GCT | ATC | GCG | GCG | ATC | TGG | GCG | GGC | AGC | GTG | CTC | TCC | 534 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ..T. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | AGC | ACC | CTC  | TTC | ATC | GCC | TAC | TAC | CAC | CAC | ACG | GCC | GTC | CTG | CTG | GGC | CTC | 585 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | GTC | AGC | TTC  | TTC | GTG | GCC | ATG | CTG | GCG | CTC | ATG | GCG | GTA | CTG | TAC | GTC | CAC | 636 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | ATG | CTG | GCC  | CGG | GCC | TGC | CAG | CAC | GGC | CGG | CAC | ATC | GCC | CGG | CTC | CAC | AAG | 687 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | ACG | CAG | CAC  | CCC | ACC | CGC | CAG | GGC | TGC | GGC | CTC | AAG | GGC | GCG | GCC | ACC | CTC | 738 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ..A | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |

FIG. 1 CONT'D

VERSION WITH MARKINGS TO SHOW CHANGES MADE

|            |   |     |
|------------|---|-----|
| Wildboar   | ACC ATC CTG CTG GGC GTC TTC CTC CTC TGC TGG GCA CCC TTC TTC CTG CAC | 789 |
| Meishan    | ...   |     |
| Pietrain   | ...   |     |
| Largewhite | ...   |     |
| Hampshire  | ...   |     |
| Duroc      | ...   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | CTC TCC CTC GTC GTC CTC TGC CCC CAG CAC CCC ACC TGC GGC TGC GTC TTC | 840 |
| Meishan    | ...   |     |
| Pietrain   | ...   |     |
| Largewhite | ...   |     |
| Hampshire  | ...   |     |
| Duroc      | ...   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | AAG AAC GTC AAC CTC TTT CTG GCC CTC GTC ATC TGC AAC TCC ATC | 885 |
| Meishan    | ...   |     |
| Pietrain   | ...   |     |
| Largewhite | ...   |     |
| Hampshire  | ...   |     |
| Duroc      | ...   |     |

b. Amino acid sequence

|            |   |    |
|------------|---|----|
| Wildboar   | <sup>D</sup><br>?P <sup>Y</sup> GLFLSLG LVSLVENVLV VAAIAKRNRL HSPMYFVCC LAVSDILVSV SNVLETAVLL | 99 |
| Meishan    | .....   |    |
| Largewhite | .....   |    |
| Hampshire  | .....   |    |
| Duroc      | .....   |    |

|            |   |     |
|------------|---|-----|
| Wildboar   | LLEAGALAAQ AAVVOQLDNV MDVLICGSMV SSLCFLGAIA VDRYVSIFYA LRYHSIVTLP | 159 |
| Meishan    | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | RAGRAIAAIW AGSVLSSTLF IAYYHHTAVL LGLVSFFVAM LALMAVLYVH MLARACQHGR | 219 |
| Meishan    | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | HIARLHKTOH PTRQGCGLKG AATLTILLGV FLLCWAPFFL HLSLVVLCPO HPTCGCFEKN | 279 |
| Meishan    | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

|            |                |
|------------|----------------|
| Wildboar   | VNLFLALVIC NSI |
| Meishan    | .....          |
| Largewhite | .....          |
| Hampshire  | .....          |
| Duroc      | .....          |

|            |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Wildboar   | TGC | GGC | TCC  | ATG | GTG | TCC | AGC | CTC | TGC | TTC | CTG | GGC | GCC | ATC | GCC | GTG | GAC | 431 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | CGC | TAC | GTG  | TCC | ATC | TTC | TAC | GCG | CTG | CGC | TAC | CAC | AGC | ATC | GTG | ACG | CTG | 483 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | CCC | CGC | GCG  | GGG | CGG | GCT | ATC | GCG | GCG | ATC | TGG | GCG | GGC | AGC | GTG | CTC | TCC | 534 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ..T. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | AGC | ACC | CTC  | TTC | ATC | GCC | TAC | TAC | CAC | CAC | ACG | GCC | GTC | CTG | CTG | GGC | CTC | 585 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | GTC | AGC | TTC  | TTC | GTG | GCC | ATG | CTG | GCG | CTC | ATG | GCG | GTA | CTG | TAC | GTC | CAC | 636 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | ATG | CTG | GCC  | CGG | GCC | TGC | CAG | CAC | GGC | CGG | CAC | ATC | GCC | CGG | CTC | CAC | AAG | 687 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Wildboar   | ACG | CAG | CAC  | CCC | ACC | CGC | CAG | GGC | TGC | GGC | CTC | AAG | GGC | GCG | GCC | ACC | CTC | 738 |
| Meishan    | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Pietrain   | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ..A | ... | ... | ... |     |
| Largewhite | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Hampshire  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |
| Duroc      | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |     |

FIG. 1 CONT'D

|            |   |     |
|------------|---|-----|
| Wildboar   | ACC ATC CTG CTG GGC GTC TTC CTC CTC TGC TGG GCA CCC TTC TTC CTG CAC | 789 |
| Meishan    | .....   |     |
| Pietrain   | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | CTC TCC CTC GTC GTC CTC TGC CCC CAG CAC CCC ACC TGC GGC TGC GTC TTC | 840 |
| Meishan    | .....   |     |
| Pietrain   | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

|            |   |     |
|------------|---|-----|
| Wildboar   | AAG AAC GTC AAC CTC TTT CTG GCC CTC GTC ATC TGC AAC TCC ATC | 885 |
| Meishan    | .....   |     |
| Pietrain   | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | .....   |     |

**b. Amino acid sequence**

|            |  |         |
|------------|--|---------|
| Wildboar   | ?PDGLFLSLG LVSLVENVLV VAAIAKNRNL HSPMYFVCC LAVSDILVSV ENVLETAVLL | 99      |
| Meishan    | .....  |         |
| Largewhite | .....  | M.....P |
| Hampshire  | .....  |         |
| Duroc      | .....  |         |

|            |  |        |
|------------|--|--------|
| Wildboar   | LLEAGALAAQ AAVVQQLDNV MOVLCGSMV SSLCFLGAIA VDRYVSIFYA LRYHSIVTLP | 159    |
| Meishan    | .....  |        |
| Largewhite | .....  | N..... |
| Hampshire  | .....  | N..... |
| Duroc      | .....  |        |

|            |   |     |
|------------|---|-----|
| Wildboar   | RAGRAIAAIW AGSVLSSTLF IAYYHHTAVL LGLVSFFVAM LALMAVLYVH MLARACQHGR | 219 |
| Meishan    | .....   |     |
| Largewhite | .....   |     |
| Hampshire  | .....   |     |
| Duroc      | V.....  |     |

|            |   |        |
|------------|---|--------|
| Wildboar   | HIARLHKTOH PTROGCGLKG AATLTILLGV ELLCWAPFFL HLSLVVLCPO HPTCCGVFKN | 279    |
| Meishan    | .....   |        |
| Largewhite | .....   |        |
| Hampshire  | .....   |        |
| Duroc      | .....   | T..... |

|            |                |
|------------|----------------|
| Wildboar   | VNLFLALVIC NSI |
| Meishan    | .....          |
| Largewhite | .....          |
| Hampshire  | .....          |
| Duroc      | .....          |

FIG. 1 CON'T

# FIG. 1

## a: Nucleotide sequence

|            |   |   |                                     |     |
|------------|---|---|-------------------------------------|-----|
| Wild Boar  | CTCCCTGCTCCCTGCTCCCTGGCGGGACG                                       | 1 | ATG CCT GTG CTT GGC CCG GAG AGG AGG | 27  |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   |                                     |     |
| Wild Boar  | CTG CTG GCT TCC CTC AGC TCC GCG CCC CCA GCC GCC CCC                 |   | CGC CTC GGG                         | 75  |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   | CC                                  |     |
| Wild Boar  | CTG GCC GCC AAC CAG ACC AAC CAG ACG GGC CCC CAG TGC CTG GAG GTG TCC |   |                                     | 126 |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   |                                     |     |
| Wildboar   | ATT CCC GAC GGG CTC TTC CTC AGC CTG GGG CTG GTG AGC CTC GTG GAC AAC |   |                                     | 177 |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   |                                     |     |
| Largewhite | .....   |   |                                     |     |
| Hampshire  | .....   |   |                                     |     |
| Duroc      | .....   |   |                                     |     |
| Wildboar   | GTG CTG GTG GTG GCC GCC ATC GCC AAG AAC CGC AAC CTG CAC TCG CCC     |   | ATG                                 | 228 |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   |                                     |     |
| Largewhite | .....   |   |                                     |     |
| Hampshire  | .....   |   |                                     |     |
| Duroc      | .....   |   |                                     |     |
| Wildboar   | TAC TAC TTC GTC TGC TGC CTG GCC GTG TCG GAC CTG CTG GTG AGC GTG AGC |   |                                     | 279 |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   |                                     |     |
| Largewhite | .....   |   |                                     |     |
| Hampshire  | .....   |   |                                     |     |
| Duroc      | .....   |   |                                     |     |
| Wildboar   | AAC GTG CTG GAG ACG GCC GTG CTG CTG CTG CTG GAG GCG GGC GCC CTG GCC |   |                                     | 329 |
| Meishan    | ... A..   |   |                                     |     |
| Pietrain   | .....   |   | .C.                                 |     |
| Largewhite | .....   |   |                                     |     |
| Hampshire  | .....   |   |                                     |     |
| Duroc      | .....   |   |                                     |     |
| Wildboar   | GCC CAG GCC GCC GTG GTG CAG CAG CTG GAC AAT GTC ATG GAC GTG CTC ATC |   |                                     | 380 |
| Meishan    | .....   |   |                                     |     |
| Pietrain   | .....   |   | .C.                                 |     |
| Largewhite | .....   |   |                                     |     |
| Hampshire  | .....   |   |                                     | A.. |
| Duroc      | .....   |   |                                     | A.. |